DSR 1400

SERIES DIGITAL STEPPING RECORDERS

The Digi-Data 1400 series of recorders offers new flexibility to designers of digital systems in the preparation of computer compatible tapes. The explanation of this new flexibility is the high speed asynchronous stepping capability of the recorder. This capability of recording a character at a time, on command, permits the recorder to be slaved to many types of synchronous and asynchronous data sources. Thus, it is possible for the unit to sit idle for extended periods and then immediately record at a rate as high as 400 characters per second. Typical applications are:

- *Paper tape and punched card to magnetic tape conversion*
- *Recording analog-to-digital converter outputs*
- *Data logger recorder*
- *Digital data transmission terminal recorder*
- *Special purpose data handling system recorder*

Key to the operation of the unit is the use of multi-pole stepping motors as the tape driving device. This eliminates the need for high speed pressure roller actuation devices, relays, AC solenoids, and vacuum operated switches, and results in a new degree of tape transport reliability.

All computer compatible functions have been incorporated in the unit with the result that an absolute minimum of external logic circuitry is needed to drive the unit. In addition, a number of options and packages are available which can provide the system designer with a unit tailored to individual requirements. Of special interest is the small portable model which saves valuable rack space with no sacrifice in performance or accessibility.

Horizontal Rack Mounting
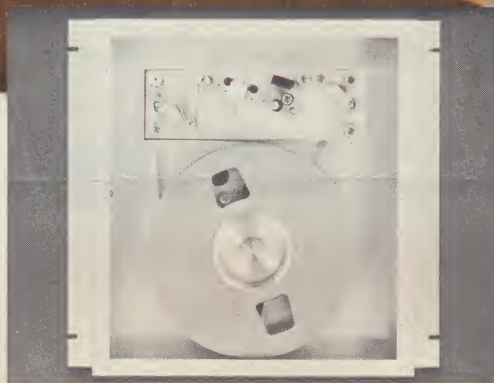
Vertical Rack Mounting

DDC

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Portable

SPECIFICATIONS

DSR

SERIES 1400

STEPPING RATE:	0 to 200 steps/sec. Model 1420 0 to 300 steps/sec. Model 1430 0 to 400 steps/sec. Model 1440
STEPPING INCREMENT:	IBM compatible, low density (1/200 in.) or high density (1/556 in.) Computer compatibility guaranteed.
TAPE WIDTH:	$\frac{1}{2}$ inch standard.
NUMBER OF TRACKS:	7 track IBM compatible spacing.
REEL SIZE AND MOUNTING:	$10\frac{1}{2}$ inch IBM type reels; reel mounting coaxial for minimum space.
INTER RECORD GAP GENERATION:	$\frac{3}{4}$ inch as required by most computers; high speed to minimize data loss.
LONGITUDINAL AND LATERAL PARITY GENERATION:	Selectable odd and even lateral parities are generated. The longitudinal check character is recorded when IR gap is commanded.
END OF FILE GAP AND MARK GENERATION:	EOF switch advances tape 3.4 inches and writes the EOF and longitudinal check characters.
REEL TENSION:	Reel tension is fully controlled by individual DC reel motors.
TAPE LOAD POINT POSITIONING:	BOT (beginning-of-tape) switch advances tape to load point reflective marker which stops tape 3.4 inches beyond record head.
END OF TAPE SENSING:	Reflective marker sensed by photo cell.
LOSS OF TAPE TENSION:	Provides signal level and activates reel brake.
FAST FORWARD AND REWIND:	3 minutes either mode. Dynamic braking. No tape rethreading required.
FRONT PANEL CONTROLS AND INDICATORS:	**Controls:** on-off, record, fast forward, rewind, BOT (beginning-of-tape or load point) switch, and end-of-file switch. **Indicators:** Tape tension and power.

SIGNAL INPUTS: Binary "1" = —6 volts or greater; binary "0" = 0 to —1 volt. All impedances are to ground. ■ **Data Inputs:** 7 lines. Must be present during step and record command pulse; 7.5K impedance. ■ **Step and Record Input:** 50 to 100 μsec negative pulse. 7.5K impedance. ■ **Inter-Record Gap Input:** 20μsec or longer negative pulse; 15K impedance.

SIGNAL OUTPUTS: Binary "1" = —12 volt, 1.5K impedance; binary "0" = 0 to —1 volt. ■ **End of Inter-Record Gap:** 100 μsec or longer negative pulse. ■ **Lateral Parity Generation:** Odd or even; wire back into C track input. ■ **Head Current Parity Check:** Both even and odd parity, 20 μsec pulse outputs. One output represents parity correct, the other parity incorrect. ■ **End of Tape:** Negative voltage when marker is present. ■ **Loss of Tape Tension:** —12 volt when no tension; open circuit when tension exists.

CONSTRUCTION: Maximum use is made of solid state plug-in printed circuit construction. Swing out card cage on all models permits rapid checking and servicing of electronics.

ENVIRONMENTAL LIMITS: 40° to 110° F operation; humidity of 100% relative without condensation.

SIZE: $7\frac{3}{4}$ H x $11\frac{1}{2}$ W x 17D (portable model)
$17\frac{1}{2}$ H x 19W x $6\frac{1}{16}$ D (vertical rack mounted model)
$8\frac{3}{4}$ H x 19W x $16\frac{1}{8}$ D (horizontal rack model)

OPERATION POWER: 1 amp at 115V, 50-400 cps.

OPTIONS AND OPTIONAL ACCESSORIES:
Complete Remote Operation ■ Continuous run read-back option ■ Silicon electronics ■ AC-DC operation ■ Tape width ■ Number of tracks ■ NAB hubs ■ Other computer compatible stepping increments ■ Higher temperature operation ■ Low power drain.

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DIGITAL STEPPING RECORDERS ■ DIGITAL DATA HANDLING EQUIPMENT